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ABSTRACT

With the emphasis on mainstreaming special education students, it was hypothesized that teachers with mainstreamed students, who were instructed on successful classroom intervention techniques, would show significantly more cognitive student gains when compared to teachers who were not instructed. Three hundred eighty-two elementary school students demonstrated significant test study. Results showed that experimental students demonstrated significant test score differences in reading and mathematics. The study also addressed the number of students referred for special education services. Analyses of the data indicated that regular classroom teachers who were trained in the intervention techniques requested fewer services [for] the special education students. (Author)

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CLASSROOM INTERVENTIONS EMPLOYED IN MAINSTREAMING

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Abstract

Classroom Interventions Employed in Mainstreaming

With the emphasis on mainstreaming special education students, it was hypothesized that teachers with mainstreamed students, who were instructed on successful classroom intervention techniques, would show significantly more cognitive student gains when compared to teachers who were not instructed. Three-hundred eighty-two (382) elementary school students participated in this study. Results showed that experimental students demonstrated significant test score differences in reading and mathematics.

The study also addressed the number of students referred for special education services. Analyses of the data indicated that regular classroom teachers who were trained in the intervention techniques requested fewer services the special education students.

CLASSROOM INTERVENTIONS EMPLOYED IN MAINSTREAMING

Framework of the Study

During the decade prior to the civil rights movement of the sixties, students with mild handicaps were increasingly assigned to special classes. It was argued that the needs of these students could be better met in smaller classes with specially trained teachers using specially designed curriculum materials.

However, by the late 1960's, Dunn (1968), in noting that instruction in special education classes for the mildly retarded was often inferior to that in regular classes, led a number of well-known authorities in questioning the wisdom of separate classes for such children.

Since the passage of Public Law 94-142 in 1975, mandating the least restrictive placement for all children, the focus within special education has been toward mainstreaming handicapped students in regular classroom settings. A number of different educational policies and programs have been developed to accomplish this. Many school districts provide a variety of special services for handicapped pupils ranging from separate, special schools to complete integration in the regular class.

In describing a continuum of such services that they feel should be available in all school systems, Lowenbraun and Affleck (1978) included the following approaches: a) special class placement, b) resource room placement, c) regular class placement with in-class assistance, and d) regular class placement with support consultation given to the teacher to design appropriate curriculum and programs.

In reviewing the available studies which have attempted to compare the effects of mainstreaming and special class placement on the achievement of mildly handicapped students, Madden and Slavin (1983) determined that the best placement is in a regular classroom environment which has been modified to meet their needs. However, Gickling and Theobold (1975) found that 85% of a sample of regular class teachers did not feel that they had been adequately trained to modify their instructional programs to accommodate mainstreamed pupils.

Clearly, as Madden and Slavin (1983) have concluded, it will be necessary to address this need for inservice training on the part of regular classroom teachers if the mainstream setting is to have positive effects.

Research Questions

In order to gain insight into the effectiveness of one such approach to improving the outcomes of mainstreaming, the following research questions were posed:

1. Will providing inservice training to regular classroom teachers improve the academic achievement of their mainstreamed handicapped pupils?

2. Will providing inservice training to regular classroom teachers result in fewer referrals for special education services?

Hypotheses

The above research questions gave rise to the following specific hypotheses:

1. There will be a significant difference in mean gains in reading and mathematics achievement between mainstreamed students whose teachers received inservice training in classroom intervention techniques and mainstreamed students of teachers not receiving such inservice.

2. There will be a significant difference in the number of students referred for special education services between teachers receiving inservice training in classroom intervention techniques and those teachers not receiving such instruction.

The inservice training provided to the regular classroom teachers in the project included knowledge and skills in classroom management, diagnostic assessment, learning/teaching styles, individualizing instruction, and academic learning time. Strategies employed in the training included simulation activities, problem solving exercises, task sheets, case studies, and planning sessions.

Method

Sample: Sixteen (16) elementary schools enrolling a total of 24 third-grade and 24 sixth-grade classes participated in the study. Included within these classes were 62 pupils mainstreamed at grade three and 63 pupils at grade six.

Individual schools used in the study were selected on the basis of desire to participate and if a matched control site could be found within the county. Schools were matched by SES factors, California Assessment Program (CAP) test scores, and school/community size.

Because of the difficulty in avoiding contamination of the control groups, if both experimental and control conditions existed within the same institution, a non-randomized intact group design was employed in which all of the classes at a particular school were assigned to the same treatment condition (experimental or control).

Instruments: Two instruments were employed to measure the variables in the study. First, academic achievement in reading and mathematics was measured by the Basic Skills Inventory (BSI), a collection of 24 tests spanning grades 1 - 12 in the areas of reading, language arts, and mathematics. The major purpose of the battery is to provide basic skills achievement information for making pupil placement, program referral, and program evaluation decisions. (Office of the Los Angeles County Superintendent of Schools, 1983)

Because all of the tests in a subject area contain items from the same Rasch calibrated item bank, scores from different levels of the inventory are directly comparable on a scale ranging from 50 to 800.

The BSI tests were developed to reflect national curricular objectives in the content areas represented, and, in all instances, at every grade level, Kuder-Richardson Formula 20 reliability coefficients are 0.90 or greater.

The second variable in the study, frequency of referral of pupils for special education services, was measured by transferring the information from each of the referral forms used in the individual districts or schools to a standard

form containing the following categories: a) suspected intellectual handicap, b) suspected perceptual handicap, c) underachievement, d) physical handicap, and e) suspected emotional handicap.

Procedure: The study was designed to incorporate a non-randomized, intact groups design with the pre-test/post-test differences as the dependent variables. This practice is supported by Richards who concluded that, if taken over a long enough interval, difference scores based on non-random assignment can provide reasonably accurate measure of school impact (Richards, 1975, p. 309).

After selecting eight pairs of schools matched as closely as possible by SES factors, CAP test scores, and school/community size, one member of each pair was assigned to the experimental or treatment condition while the remaining one became a control school.

All teachers in grades three and six at each of the sixteen participating schools, along with their mainstreamed mildly handicapped pupils, were selected to participate in the study. Prior to initiating the inservice training with the experimental group teachers, all pupils in both experimental and control group classrooms were administered the reading and mathematics sub-tests of the appropriate form of the BSI.

The inservice training provided to the 25 experimental group teachers consisted of 20 hours of formal, didactic and "hands-on" instruction conducted during two full days at the outset of the project and four one-hour sessions during the course of the year. In addition, on-going consultation, support, and feedback were provided on a weekly basis by members of the project team for the implementation of appropriate educational and behavioral strategies with targeted mainstreamed students.

The focus of the inservice training was management of the total classroom including assessing and modifying teaching style, contingency management practices with positive consequences for task completion, and individualized instruction based on diagnostic assessment of a child's learning style and status.

The control schools did not offer these topics for the teacher inservice days.

At the conclusion of the project year, all pupils in both the experimental and control classrooms were administered an appropriate form of the BSI as a post-test.

Results and Findings

The significance of the differences between the mean gains of the experimental and control groups in reading and mathematics, as stated in hypothesis one, was determined by applying a two-tailed t-test for uncorreleated means (Garrett, 1958) to the data obtained from the pre-test and post-test administrations of the BSI. As can be seen from an examination of Table 1, the differences in favor of the experimental group at both grade levels in both subject areas were significant at the .05 level.

The significance of the difference in the number of students referred for special education services by experimental and control group teachers, as stated in hypothesis two, was determined by a chi-square test (Siegel, 1956). The difference, in favor of the experimental group, as reported in Table II, was significant at the .01 level.

Based on the above results of the statistical analyses of the data, the following conclusions were drawn:

1. Providing inservice training to regular classroom teachers, to enable them to accommodate the needs of mainstreamed handicapped pupils, results in improved academic achievement.

2. Providing such inservice training to regular classroom teachers also results in fewer referrals for special education services.

While it was not formally assessed as part of the research design of the study, the teachers participating in the inservice training expressed more willingness to accept mainstreamed pupils and a greater confidence in their ability to accommodate them successfully within the regular classroom.

TABLE 1

MEAN GAINS IN BSI READING AND MATHEMATICS SCORES

		READING					MATHEMATICS				
		Pre	Post	Gain	Difference	t	Pre	Post	Gain	Difference	t
Grade 3											
Experimental	$\bar{X}$	432	500	68			376	410	34		
n = 33	S	51.39	54.79		34	2.14*	43.65	47.50		24	1.99*
Control	$\bar{X}$	440	474	34			379	389	10		
n = 29	S	52.76	53.41				44.95	45.75			
Grade 6											
Experimental	$\bar{X}$	532	573	41			467	514	47		
n = 31	S	48.63	49.12		26	2.07*	46.13	47.87		28	2.27*
Control	$\bar{X}$	525	540	15			459	478	19		
n = 32	S	48.53	48.92				47.23	48.36			

*p < .05

	Experimental	Control	
Grade 3	13 classes	11 classes	24 classes
Grade 6	12 classes	12 classes	24 classes
			48 classes

TABLE 2

TOTAL NUMBER OF REFERRALS FROM
EXPERIMENTAL AND CONTROL GROUP
TEACHERS FOR SPECIAL EDUCATION SERVICES

EXPERIMENTAL	CONTROL
21	67

$X^2 = 24.05$ $p < .01$

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